

edges of the top electrode do not align with the edges of the ceramic layer or the bottom electrode.

Schwartz and Samsel disclose piezoelectric devices having a ceramic layer with electrodes disposed on both sides of the layer. From the Figures of both of these references, the edges of the electrode layers appear to align with the edge of the ceramic layer.

Lange discloses a piezoelectric actuator having a ceramic plate disposed between electrodes. From Fig. 3, it can be seen that the electrodes are shorter than the ceramic plate, and thus the edges of the electrodes are insulated from each other by the plate. An insulating material surrounds the edges and major surfaces of the actuator to prevent the electrodes from being short-circuited when immersed.

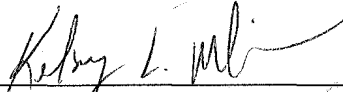
Harnden discloses a piezoelectric switching device mounted in a gastight enclosure. The device has electrodes with edges generally aligned disposed on both sides of a ceramic layer. An insulative cap is disposed around one end of the device, covering the edges of the device and a portion of its major surfaces.

With regard to independent claims 1 and 10, the Examiner believed it was obvious to "one of ordinary skill in the art to provide a non-conductive coating over all or part of Schwartz, Samsel or Haertling." (Office Action, July 23, 2002, Page 2) However, both Lange and Harnden, which both disclose electrodes having aligned edges, disclose providing an insulating material covering a substantial portion of the actuator, i.e. more of the actuator than solely the edges, which is recited in newly amended claims 1 and 10. Applicants believe that there is not any motivation in any of the references for providing an edge coating, as recited in the claims of the pending application. In addition, Applicants believe that the combination of the cited references would not teach the invention as claimed.

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. It is respectfully urged that the instant application, as amended, is patentable and is now in condition for allowance. Should the Examiner believe

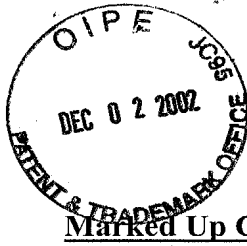
that an interview would facilitate an early disposal of the application, applicant's undersigned attorney invites a telephone call at the below listed number.

Respectfully submitted,



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Marked Up Copy of Amendments pursuant to 37 CFR 1.121

Title: COATED ELECTROACTIVE BENDER ACTUATOR
Application No. 09/818,308
Attorney Docket No. 99-600

1. An electroactive bender actuator having upper and lower surfaces, comprising:
a pair of spaced electrodes having outer edges that are offset from one another;
an electroactive layer having an outer edge and disposed at least in part between and coupled with said electrodes; and
an insulating coating [applied by vapor deposition] covering at least a portion of the outer edges of the electrodes [an outer surface of said actuator], wherein the insulating coating does not cover the upper and lower surfaces.

10. An electroactive bender actuator having upper and lower surfaces, comprising:
a pair of spaced electrode layers having a plurality of outer edge surfaces, at least one of the outer edge surfaces of both of the electrode layers generally aligned to lie in a common plane; [and]
an electroactive layer disposed at least in part between and coupled with said electrode layers and having a plurality of outer edge surfaces at least one of which is also generally aligned to lie in the common plane; and
an insulating coating covering the outer edge surfaces of said electroactive and electrode layers which lie in the common plane, wherein the insulating coating does not cover the upper and lower surfaces.